

Box Text

What was known and gap

Inpatient rounds facilitate planning and coordination of care, teaching, and assessment of trainees.

What is new

A qualitative study identified 4 themes in resident perceptions of rounds: patient care, clinical education, patient/family involvement, and evaluation.

Limitations

Sample limited to 2 specialties; variable definitions of family-centered rounds.

Bottom line

There is a need to educate program directors, faculty, and residents to maximize clinical education and reduce inefficiencies in the simultaneous production of teaching and patient care.

ORIGINAL RESEARCH

Rounds Today: A Qualitative Study of Internal Medicine and Pediatrics Resident Perceptions

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Abstract

Background Attending rounds is a key component of patient care and education at teaching hospitals, yet there is an absence of studies addressing trainees' perceptions of rounds.

Objective To determine perceptions of pediatrics and internal medicine residents about the current and ideal purposes of inpatient rounds on hospitalist services.

Methods In this multi-institutional qualitative study, the authors conducted focus groups with a purposive sample of internal medicine and pediatrics residents at 4 teaching hospitals. The constant comparative method was used to identify themes and codes.

Results The study identified 4 themes: patient care, clinical education, patient/family involvement, and evaluation. Patient care included references to activities on rounds that forwarded care of the patient. Clinical education pertained to teaching/learning on rounds. Patient/family involvement encompassed comments about incorporating patients and families on rounds. Evaluation described residents demonstrating skill for attendings.

Conclusions Resident perceptions of the purposes of rounds aligned with rounding activities described by prior observational studies of rounds. The influence of time pressures and the divergent needs of participants on today's rounds placed these identified purposes in tension and

led to resident dissatisfaction in the achievement of all of them. Suboptimal congruency exists between perceived resident clinical education and specialty-specific milestones. These findings suggest a need for education of multiple stakeholders by (1) enhancing faculty teaching strategies to maximize clinical education while minimizing inefficiencies; (2) informing residents about the value of patient interactions and family-centered rounds; and (3) educating program directors in proper alignment of inpatient rotational objectives to the milestones.

Introduction

Since the era of William Osler, attending rounds has been fundamental to patient care and education at teaching hospitals.¹ Rounds serve as an important time for clinical decision making, coordination of patient care, education and assessment of trainees, and communication with patients and families.²⁻⁴ Much has changed in medical education since Osler, including the adoption of different rounding models, an increased presence of hospitalists, the use of technology, limits on resident hours, and a greater focus on shared decision making with patients and families. These changes result in a contextual shift in rounds toward covering higher patient volumes in less time and a decline in the amount of bedside teaching.^{5,6} In addition, the move to competency-based education highlights a linkage between clinical activities and educational needs. With these demands, it is unclear which rounding models are ideal for educational and clinical success.

Previous studies have characterized the activities occurring on rounds, noting tremendous variabilities among institutions and specialties,^{2,4,7,8} and the current compressed workday may constrain traditional activities on rounds, such as physical examination instruction.² Different

rounding models, such as family-centered rounds (FCR)⁹ may alter residents' perceptions of the purpose of rounds. However, there is a paucity of studies investigating resident perceptions of rounds and comparing them across specialties. To respond to this need, we conducted a multi-site qualitative study to determine medicine and pediatrics residents' perceptions of current and idealized inpatient rounds.

Methods

Between April and June 2014, we convened 11 semistructured focus groups at 4 teaching hospitals: University of Chicago Medical Center, Children's National Medical Center, Georgetown University Medical Center, and University of California, San Francisco Medical Center.

Sampling Strategy

We invited a sample of junior (postgraduate year [PGY] 1) and senior (PGY-2 and PGY-3) residents from internal medicine and pediatrics to participate, to provide an array of perspectives across training levels and 2 inpatient-oriented specialties. Study sites were selected to achieve a geographically diverse sample of university-based hospitals employing hospitalists. Residents were contacted by e-mail to participate voluntarily without compensation.

Data Collection

Most focus groups had 5 to 9 participants, with 2 outliers of 3 and 21 members. Groups were organized by specialty and training level to include, separately, medicine interns, pediatrics interns, medicine seniors, or pediatrics seniors. Interviews were digitally recorded and transcribed. The focus group script (provided as online supplemental material) was informed by a literature review and expert input, and used open-ended questions to explore perspectives on

current and ideal practices of rounds. Focus group sessions lasted 30 to 60 minutes. Four facilitators led focus groups at the study sites. An author (R.R.) trained to conduct focus groups led the focus groups at 1 site, and trained the facilitators at the other sites.

The protocol was approved by the Institutional Review Boards of the 4 participating sites.

Data Analysis

We employed a grounded theory approach to data collection and analysis,¹⁰ analyzing transcripts using the constant comparative method.¹¹ Investigators had no a priori hypothesis. Four transcripts were independently reviewed by 2 investigators (R.R., O.H.). Words and phrases served as the units of analysis. The researchers discussed initial codes and resolved discrepancies through deliberation and consensus to create codebooks. Researchers inductively and iteratively identified themes that included multiple codes, which were edited to reflect the evolving dataset. One author (R.R.) independently coded the remaining transcripts using the revised codebook as a guide. To ensure accuracy of codes, a faculty author (H.B.F.) with insight into rounding used the refined codebook to code 2 previously coded transcripts. No new codes emerged through this process, suggesting an accurate coding scheme. Findings were organized and presented in accordance with published standards for qualitative research.¹²⁻¹⁴

Results

Demographics

A total of 47 internal medicine residents and 38 pediatrics residents participated in the focus groups (TABLE 1). The majority of medicine residents were men and had not practiced FCR, while the majority of pediatrics residents were women and reported using FCR.

Qualitative Analysis

Four themes were identified, with 1 to 9 codes related to each theme. Themes were patient care, clinical education, patient/family involvement, and assessment. See TABLE 2 as well as the online supplemental material for representative quotes.

1. Patient Care

Comments related to activities on rounds that advanced patient care, including communication among the medical team, development of a cohesive plan, and completion of patient care work, were grouped into the patient care theme.

Development of the Patient Care Plan: Residents commented on the important role rounds play as a setting for final clinical decision making.

Sharing Information With the Team: Residents frequently referenced the “information-sharing process” of updating the team with overnight events. Comments pertaining to updates and overnight events (sharing information with the team) were referenced negatively as “redundant” transfers of information that involved telling “information that everyone already knows.” In contrast, some residents noted the value of redundancy in maintaining quality and safety in patient care and ensuring that critical details are not omitted. Many voiced frustration with the extreme variability in attending preparation for rounds, from attendings who “stalked the charts” to those who “hear everything on rounds.”

Establishing Plan Cohesion: Residents reflected that rounds get the whole patient care team “on the same page.”

Completion of Resident Work: Residents reported utilizing rounds to complete necessary patient care tasks of the day.

Completion of Attending Work: Residents commented that rounds create an opportunity for the attending to “examine the patient.”

2. Clinical Education

Comments related to the education of trainees on rounds were grouped into the clinical education theme.

General Trainee Education: References to “teaching” and “learning” as purposes of rounds were included.

Diagnostic and Therapeutic Decision Making: Residents noted that the clinical context of rounds made it an ideal environment for discussing differential diagnoses, and developing assessments and plans.

Physical Examination: Residents endorsed rounds as an important setting for teaching physical examination.

Presentation Skills: Residents emphasized that a major educational purpose of rounds was learning how to present patients.

Professionalism: Residents cited rounds as an opportunity for role modeling of professional behavior by more experienced team members.

Communication: Pediatrics residents commented that rounds offer an opportunity to practice explaining care plans in a patient-friendly manner that avoids overuse of jargon.

Learning How to Teach: Residents noted that observations of model teachers on rounds presented the opportunity to improve their teaching practice.

Safe Environment for Learning: Pediatrics residents commented about the importance of providing a safe environment for learners to make mistakes, and argued that the adoption of FCR undermined this.

Feedback: Residents described the importance of rounds as a forum for the dissemination of immediate feedback “from your attending and peers.” Several pediatrics residents described a lack of formal feedback opportunities on FCR.

3. Patient/Family Involvement

Comments related to the incorporation of patients and families on rounds, including communication of the care plan, education, and shared decision making, were organized into the patient/family involvement theme.

Patient/Family Communication: Residents described the value of updating patients/families about the evolving care plan.

Patient/Family Education: Residents commented that rounds provide the opportunity to educate patients and parents about the care plan. Some residents voiced frustration that the needs of the family superceded their own, or that the presence of families constrained academic discussion of patients. Several pediatrics residents voiced concern that FCR led to an overemphasis on parent education during rounds.

Shared Decision Making: Pediatrics residents talked about incorporating patient and family preferences into the daily patient care plan. This code was not discussed during medicine focus groups.

Establishment of Primary Team: Residents reflected on the value of introducing members of the care team to the patient and their family.

4. Assessment

Comments related to trainee performance assessment were organized into the assessment theme. This was a minor theme which had a single code, Demonstration of Trainee Knowledge/Skill, which emerged only during pediatrics focus groups.

Discussion

To our knowledge, this is the first national study to explore the perceptions of internal medicine and pediatrics residents about rounds. We identified 3 major themes encompassing the current purposes of rounds: patient care, clinical education, and patient/family involvement, and 1 minor theme, assessment. Our study confirms previous observational studies of internal medicine^{2,7,8} and pediatrics⁴ inpatient services that have identified patient care, education, and patient communication activities as the primary events observed on rounds.

Residents acknowledged the importance of each of these diverse functions, yet also noted that the multipurpose nature of rounds created tensions. Residents most frequently referenced the development of the patient care plan as a purpose of rounds, often calling it the “main purpose” of rounds that could not be sacrificed due to limited time. Many senior residents indicated that there is “less teaching on rounds” since their time as medical students on rounds during the pre-duty hours era because of time pressures. Indeed, prior studies have shown a reduction of time spent on educational activities from approximately 25% of rounds before duty hours to 9% after its implementation.^{4,7,8}

Many residents perceived that discussions on rounds aimed at updating the morning team with overnight information (events, new laboratory values, changes to physical examination, etc) occupied a disproportionate share of rounding time, contributing to dissatisfaction with their learning. With increasing need for patient handoffs and time pressures introduced by the duty hours restrictions, the delineation of a standardized approach to attending preparation for rounds has become imperative. Many of the published benefits of attending review of the electronic health record before rounds (preparation of teaching points and illness scripts, streamlined case

presentations, opportunities for quality and safety checks, and selection of patients of highest acuity and educational benefit for bedside rounds) would address resident concerns about disruption of educational opportunities and work efficiency.¹⁵⁻¹⁷

Some residents felt that poorly structured learning opportunities on rounds detracted from their ability to deliver timely patient care. Interns frequently reported confusion about the interplay between resident patient care responsibilities and their education. One stated that he would like “clarity that when you’re not . . . discussing something interesting . . . [you should] get stuff done because the worst again is that limbo where you are . . . pretending to pay attention but not actually doing much in terms of being efficient.” A senior resident commented on the inefficiency introduced by rigid adherence to teaching with a formal presentation structure: “you’re presenting the head and neck exam on someone that totally doesn’t matter . . . just to do it in rote format.” These findings point to a need for attendings to define the roles of participants on rounds and set clear expectations for presentations; observations are supported by the literature on effective bedside teaching.^{15,18-20} Faculty development and mentorship initiatives aimed at incorporating best teaching practices into rounds are promising solutions to address resident dissatisfaction with how rounds are run.²¹

To better understand how participant perceptions about clinical education compared to their developmental goals, definitions of each clinical education code were compared to definitions of core pediatrics and internal medicine milestones to assess congruency (TABLES 3 and 4).^{22,23} The pediatrics milestones that related to our results were the patient care, practice-based learning and improvement, interpersonal and communication skills, and professionalism competencies,²² while the corresponding medicine milestones addressed medical knowledge, patient care, and professionalism.²³ Residents from both specialties endorsed rounds as an

optimal setting to achieve several patient care milestones because they provide a “relevant” context that encourages “active learning” about patients on the team. Yet residents noted that time pressures and other tensions made their learning experiences unsatisfactory. “[There is] a much larger educational component . . . where you really get into why we should be thinking about plans in the way that we’re thinking about them, and why we should be thinking about diagnoses in the way that we’re thinking about them.” More research is needed to address how best to provide the time and safe environment needed to achieve these fundamental teaching objectives on increasingly rushed and fragmented inpatient teams.

Interestingly, residents viewed rounds as a less than ideal time to learn interpersonal and communication skills. This milestone did not emerge in the internal medicine focus groups, and surfaced in a negative way in pediatrics focus groups through critical comments about FCR. The perceived lack of training in communication skills is unfortunate, as it underscores a lost opportunity for faculty and residents to role model and practice these skills

Differences in rounding models, with FCR used by 82% of pediatrics residents versus 20% of medicine residents, colored variations in responses across specialties. For example, shared decision making and learning communication skills were areas mentioned solely by pediatrics residents. This is not surprising, given that a major goal of FCR is the incorporation of patient and family perspectives and preferences into clinical decision making.^{9,24,25} As a result, thematic tension between trainee and patient/family needs emerged for pediatrics residents. One recurrent theme was a perceived lack of clinical education on rounds due to the influence of FCR. Previous studies of residents’ perceptions of FCR have identified several benefits: increased patient exposure, attending role modeling of communication and physical examination skills, and opportunities for real-time feedback.^{26–28} Outside of physical examination teaching,

none of these viewpoints emerged in our data, and pediatrics residents in our focus group perceived missed opportunities for immediate feedback because of the presence of family members.

Prior research on FCR noted that residents express feelings of discomfort about making mistakes, asking questions, and discussing sensitive information in the presence of families.²⁶⁻²⁸ In our study, pediatrics residents cited similar concerns, but framed them in the context of their own education. Many interns indicated that FCR challenged resident autonomy: the need to appear competent in front of families hindered their ability to deliver authentic assessments and plans and learn through critical feedback.

The recognition of FCR as a success in the pediatrics literature is challenged by the frustrations voiced by residents in our study, who desire for more rigorous instruction in patient care. Two points that emerged during focus group discussions suggest approaches to mitigate these concerns: poor training for pediatrics residents during medical school in FCR and resident misunderstanding of FCR benefits .

There are limitations to this study. Our sample was restricted to internal medicine and pediatrics residents at academic institutions, and may not reflect the experiences of trainees in other specialties or community hospitals or those of non-resident participants on rounds. We used self-identification to determine the use of FCR, and differences may have existed among sites.

Conclusion

Our findings show that internal medicine and pediatrics residents perceive 4 broad purposes of inpatient rounds: patient care, clinical education, patient/family involvement, and assessment.

The influence of time pressures and the divergent needs of participants on today's rounds often place these purposes in competition, resulting in resident dissatisfaction. These challenges suggest a strong need to educate about the structures and purposes of rounds. For faculty: teaching strategies to establish roles and expectations that maximize clinical education while minimizing inefficiencies; for residents: the utility of patient interactions in clinical education, and the value and proper delivery of FCR; and for program directors: aligning the rotation objectives with those milestones that can be demonstrated during inpatient team interactions.

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TABLE 1
Focus Group Participant Demographics

Population	Medicine Interns/Residents	Pediatrics Interns/Residents
No. of participants	47	38
Gender		
Male (%)	55.4	36.9
Female (%)	44.6	63.1
Mean age	28.4	29.3
Specialty		
Medicine (%)	95.7	0
Pediatrics (%)	0	94.7
Med-peds (%)	0	5.3
Other (%)	4.3	0
Do you conduct family-centered rounds? ^a		
Yes (%)	19.1	81.6
No (%)	78.7	13.2
Other (%)	2.1	5.3

^a The following definition of family-centered rounds was read to residents: “Family-centered rounds are multidisciplinary rounds that occur inside patients’ rooms, in the presence of patients and family members, and integrate patient and parent perspectives and preferences into clinical decision making.”⁹

TABLE 2
Themes and Definitions for Responses to “What Is/Should be the Purpose of Rounds?”

Themes	Codes	Representative Quotes
Patient Care	Development of Patient Care Plan	<i>“[Rounds are] when . . . all information is collected, all opinions are gathered and a clinical decision is made.”</i>
	Sharing Information with Team	<i>“It’s more just regurgitation of information.” “The assumption that people already know everything would be . . . a scary one . . . At baseline I assume that attendings don’t know everything . . . Some of the attendings [come to rounds] . . . expecting to learn everything updates-wise. It’s redundancy, but redundancy is good for some.”</i>
	Establishing Plan Cohesion	<i>“[Rounds] aligns everybody with the same basic plan and goals.”</i>
	Completion of Resident Work	<i>“Interns putting in orders for each other.” “The tension between the learning . . . on rounds</i>

		<i>versus being able to get your work done efficiently.”</i>
	Completion of Attending Work	<i>“The purpose of having them [the attending] examine the patient.”</i>
Clinical Education	General Trainee Education	<i>“Teaching on rounds is . . . relevant and it’s timely.” “There just should be more of a balance of teaching.”</i>
	Diagnostic and Therapeutic Decision Making	<i>“[Rounds are] often when we’re going to have that intellectual discussion and talk about differentials.” “It’s hard to talk about every diagnosis . . . and prognosis; things like that that can be very sensitive to patients . . . It hinders your assessment.”</i>
	Physical Examination	<i>“Ideally we would have more time to spend learning bedside physical exam.”</i>
	Presentation Skills	<i>“[Learning] how to communicate to other medical professionals what is going on with a patient.”</i>
	Professionalism	<i>“What we’re seeing [on rounds] is how seniors work . . . what seems to be going well for them or . . . not working.”</i>
	Communication	<i>“You have to use language that the family can understand and that’s . . . part of the learning.”</i>
	Learning How to Teach	<i>“Learning how to teach and teach well on rounds.”</i>
	Safe Environment for Learning	<i>“We’re asking for a safer environment to express our thoughts . . . I don’t necessarily go through my thought process, because . . . I’m just scared of worrying the family if I’m going to bring up something . . . that is kind of scary or just sounding like I don’t know what I’m doing.”</i>
	Feedback	<i>“If I’m saying the right words [to the family], it doesn’t mean that I am understanding where my gaps in knowledge are because I’m not getting immediate feedback.”</i>
Patient/Family Involvement	Patient/Family Communication	<i>“[Rounds are] a formal way to communicate more with the patients.”</i>
	Patient/Family Education	<i>“To do . . . parent education.” “To allow the patient to ask questions about the plan.”</i>
	Shared Decision Making	<i>“[Parents] also have a voice in dictating our plans . . . [rounds] giv[e] them the forum for that.”</i>
	Establishment of Primary Team	<i>“It’s . . . up front introducing everyone: name, role in the group, and then just going from there.”</i>

Assessment	Demonstration of Trainee Knowledge/Skill	<p><i>“To prove to the rest of the team that you know what’s going on.”</i></p> <p><i>“To perform for our attending so that we can get evaluated.”</i></p>
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Table 3

Clinical Education Codes Matched to Pediatrics Milestones

Codes^a	Associated Pediatrics Milestones^b	Representative Quotes
Diagnostic and Therapeutic Decisionmaking	<p>PC4: Make informed diagnostic and therapeutic decisions that result in optimal clinical judgment.</p> <p>PC5: Develop and carry out management plans.</p>	<p><i>Resident 1: “You can't say, ‘Oh, I’m thinking this person has cancer’ in front of the parent.”</i></p> <p><i>Resident 4: “And then have the argument of ‘Why don't you think it's cancer?’ And then have to justify here are the 3 reasons that I do, and then the attending says, ‘Well here are the 7 why it's not.’ And then you learn from that back-and-forth.”</i></p> <p><i>“If you’re not hearing how someone comes to that decision . . . why wouldn't you do this? And why do you do this? . . . as opposed to it being so business-oriented and saying, ‘This is what we are going to do,’ then it’s just less valuable for people who are trying to arrive at those decisions.”</i></p>
Physical Examination	PC1: Gather essential and accurate information about the patient.	<i>“We never get enough physical exam.”</i>
Presentation Skills	PC1: Gather essential and accurate information about the patient.	<i>“[Learning] how to communicate to other medical professionals what is going on with a patient.”</i>
Professionalism	PROF3: Demonstrate humanism, compassion, integrity, and respect for others; based on the characteristics of an empathetic practitioner.	<i>“Modeling behavior for medical students and residents on what your immediate superior is doing and what you should expect to try and do.”</i>
Communication	ICS1: Communicate	<i>“[On FCR] you are communicating</i>

	effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds. ICS2: Demonstrate the insight and understanding into emotion and human response to emotion that allows one to appropriately develop and manage human interactions.	<i>with 'lay people,' the family, non-medical people, and so you have to use language that the family can understand and that's sort of part of the learning process."</i> <i>"That would be very helpful for us as learners, to have honest conversations about prognosis."</i>
Feedback	PBLI4: Incorporate formative evaluation feedback into daily practice.	<i>"We need the practice of developing plans and we need ideally a lot of feedback on that on the spot . . . I don't know that that happens. "</i>

^aGeneral Trainee Education, Safe Environment for Learning, and Learning How to Teach did not match to pediatrics milestones.

^bThe authors matched specific sub-competencies from the Pediatrics Milestone Project to individual themes that emerged within the clinical education domain.¹⁹ For a complete list of milestones and their definitions and assessment criteria, please visit: <http://acgme.org/acgmeweb/Portals/0/PDFs/Milestones/PediatricsMilestones.pdf>.

TABLE 4

Clinical Education Codes Matched to Internal Medicine Milestones

Codes^a	Associated internal medicine milestones^b	Representative Quotes
Diagnostic and Therapeutic Decisionmaking	MK1: Clinical knowledge PC2: Develops and achieves comprehensive management plan for each patient. PC3: Manages patients with progressive responsibility and independence.	<i>"[Rounds] a good and useful way to correct imprecise thinking or misconceptions or incorrect medical knowledge in a timely and relevant fashion."</i> <i>"It's more just, 'let's collect the data,' than think ultimately about a plan and learn from what was done."</i> <i>"You learn from treating the patient and dealing with that condition."</i>
Physical Examination	PC1: Gathers and synthesizes essential and accurate information to define each patient's clinical problem(s).	<i>"[Rounds is] an opportunity for other members of the team to . . . physically examine the patient."</i>
Presentation Skills	PC1: Gathers and synthesizes essential and accurate	<i>"There's attendings who really want formal presentations that . . . you feel</i>

	information to define each patient's clinical problem(s).	<i>like it's a waste of time, because . . . you're presenting the head and neck exam on someone that totally doesn't matter, it's superfluous data, just to do it in rote format."</i>
Professionalism	PROF1: Has professional and respectful interactions with patients, caregivers and members of the interprofessional team (e.g. peers, consultants, nursing, ancillary professionals and support personnel).	<i>"I had an attending who would [model an approach] for patients where [cocaine addiction] is an issue for them . . . [He would] go in and be sensitive about it and say, 'this is the way we should always be talking to patients' and say [to the patient], 'You've been struggling with your addiction' or 'Are you interested in getting more help? We're having social work look into that.'"</i>

^a General Trainee Education did not match to internal medicine milestones.

^b The authors matched specific subcompetencies from the Internal Medicine Milestone Project to individual themes that emerged within the clinical education domain.²⁰ For a complete list of milestones and their definitions and assessment criteria, please visit:

<https://www.acgme.org/acgmeweb/Portals/0/PDFs/Milestones/InternalMedicineMilestones.pdf>.